

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 97-104

CITIES OF SOUTH SAN FRANCISCO AND SAN BRUNO
NORTH BAYSIDE SYSTEM UNIT
SAN MATEO COUNTY

REQUIRING THE ABOVE DISCHARGER TO CEASE AND DESIST DISCHARGING
WASTE FROM ITS SEWER SYSTEM AND WATER QUALITY CONTROL PLANT
CONTRARY TO DISCHARGE PROHIBITIONS CONTAINED IN ORDER NO 97-086
(NPDES PERMIT)

The California Regional Water Quality Control Board, San Francisco Bay Region (the Board) finds that:

1. The cities of South San Francisco and San Bruno (hereinafter called the cities) own and operate the cities of South San Francisco and San Bruno Water Quality Control Plant (WQCP), located in South San Francisco, San Mateo County. The facility currently has average dry weather capacity to provide secondary level treatment for 9.0 million gallons per day (mgd) of domestic, commercial, and industrial wastewater from the cities of South San Francisco and San Bruno, and portions of the City of Daly City and the Town of Colma.
2. The cities are members of the North Bayside System Unit (NBSU), which is the Joint Powers Authority responsible for operation of certain shared transport and disposal facilities. NBSU is the Joint Powers Authority responsible for operation of certain shared transport, treatment, and disposal facilities. The NBSU includes the cities of Millbrae, Burlingame, South San Francisco and San Bruno, San Francisco International Airport, and Marine Magnesium Corporation. The joint effluent is dechlorinated before discharge into San Francisco Bay. The cities' Wastewater Treatment Plant contributes about 54% of NBSU flow.
3. The treatment facility consists of bar screens, grit chambers, vacuators, aeration tanks, final clarifiers and disinfection equipment. Sludge is thickened and anaerobically digested. Final disposal of sludge is by composting with rice hulls and sawdust to make a soil conditioner.

The treated wastewater discharges from the NBSU force main and outfall into lower San Francisco Bay, a water of the State and United States, northeast of Point San Bruno through a submerged diffuser about 5300 feet offshore at depth of 20 feet below mean lower low water (Latitude 37 deg., 39 min., 55 sec.; Longitude 122 deg., 21 min., 41 Sec.). The cities of South San Francisco and San Bruno are hereinafter called the dischargers.

4. On July 16, 1997, the Board adopted Order No. 97- 086 (NPDES Permit No. CA0038130) revising requirements for the discharge of treated wastewater from the dischargers' wastewater treatment plant.
5. The cities' wastewater treatment plant was originally built in the early 1950s and was upgraded in 1963, early 1970s, and early 1990s. Many of the units are old and worn. The plant's original design capacity of 13 mgd was based on producing an effluent to meet advanced primary not secondary requirements. From 1991 through 1993 the plant underwent modifications to improve the performance and reliability of the treatment units as required by the Cease and Desist Order (No. 90-001). These modifications were not intended to increase the capacity of the plant.
6. The cities' treatment plant and associated facilities continue to operate beyond normal capacity. During the rainy season, the plant receives high flows from groundwater infiltration and stormwater inflow (I/I). The effects of I/I, high loads, and occasional load spikes by industries are exaggerated by major deficiency in the treatment facilities. Several discharge violations have occurred each year since 1993. A Capacity Study Report was prepared in October 1995 which included an evaluation of the cities' existing wastewater treatment facilities, an estimate of the current average dry weather treatment capacity and future capacity requirements, and recommended improvements to increase treatment capacity and to improve treatment reliability.

The cities have proposed plant improvement projects to a) further improve treatment reliability of meeting discharge requirements, b) to increase dry weather treatment capacity from 9 mgd to 13, and c) to increase wet weather capacity from 35 mgd to 62 mgd. A Facility Plan was prepared in March 1997 which is a compilation of the capacity study, and the technical memorandums on evaluations of plant expansion alternatives, master plan for future requirements, financing plan, and management of wet weather flows.

7. The Cities' wastewater collection system and the treatment plant receive high flows during the rainy season. The high flows are a result of stormwater inflow and/or groundwater infiltration (I/I) of rain water in the sewer collection system from leaky pipes and direct cross-connection between storm drains and the sewer system. The sewer collection system currently has insufficient capacity to handle peak wet weather flows. During heavy storms, the collection system becomes surcharged and untreated, storm-water diluted sewage may overflow at various locations and eventually drain to Colma Creek via the storm drainage system.

The existing outfall force main and effluent pump station at the treatment plant has a limited firm hydraulic capacity. During heavy rains, the effluent flow rates from the treatment plant exceed the outfall and effluent pump capacity and treated effluent may discharge into Colma Creek approximately six times each year.

8. The dischargers have violated the following prohibitions and effluent limits of its NPDES permit, cited above:

- a. Discharge Prohibition 1 (discharges which do not receive 10:1 dilution are prohibited)
 - b. Discharge Prohibition 2 (all discharges to receive treatment)
 - c. Effluent Limitation B.1.a (Biochemical Oxygen Demand)
 - d. Effluent Limitation B.1.c. (Total Suspended Solids)
 - e. Effluent Limitation B.3 (Total Coliform bacteria)
9. The Capacity Study Report also recommended implementation of an I/I reduction program to reduce flows and surcharges in the sewer collection system during rainy season. Both cities have begun studies to estimate the I/I flows and to develop a plan to control I/I. Preliminary results from the studies will be available in the fall of 1997. Further studies are necessary to obtain additional flow data for the next rainy season. These studies are expected to be completed in the summer of 1998. Flow data collected during these studies will be used for a computer model to be developed to identify flow restrictions and to develop a collection system improvement program for both cities. The I/I studies will also recommend a sewer system operation plan to optimize the sewer collection system and to reduce peak hourly flows to the wastewater treatment plant. Additional sewer system evaluation work will be performed if severe I/I in localized areas is found.
 10. When the I/I correction/sewer improvement program is completed, more flows will be conveyed to the plant. Conservative estimates indicate that peak hourly wet weather flow (PHWWF) to the plant could rise up to 62 mgd for a 5-year storm. The existing outfall force main and effluent pump station at the treatment plant have a limited hydraulic capacity. Flow data collected during I/I studies will be used to perform wet weather effluent disposal study. The study will a) evaluate alternatives to manage effluent disposal during peak wet weather flows and b) recommend flow management approach to control effluent flows for different design storms of 2, 3, 5, and 10 year return frequencies. A cost effective analysis will be performed for each alternative.
 11. Design of plant upgrades and improvements began in December 1996 and is scheduled to be completed by March 1, 1998. The construction is scheduled to be completed by March 1, 2001. The proposed improvements include addition of primary clarifiers, replacement of the circular chlorine contact tank with two rectangular tanks and, improvements to the secondary clarifiers.
 12. When the plant improvements are completed, the plant will provide full secondary treatment for up to 30 mgd while remaining flows of up to 32 mgd will receive primary treatment for a total treatment capacity of 62 mgd. For flows above 30 mgd, primary and secondary effluent will be combined and disinfected prior to discharge through the outfall. The blended discharges are expected to meet the effluent limitations. The construction cost for the plant improvements is estimated to be \$35 million. When plant flows, combined with the other NBSU discharges, exceed the hydraulic capacity of the outfall

force main and effluent pump station, the effluent flows will be routed so that only secondary effluent is discharged to Colma Creek.

13. The California Water Code (Section 13301) authorizes the Regional Board to issue a Cease and Desist Order when it finds that a waste discharge is taking place or threatening to take place in violation of the Board's prescribed requirements.
14. This action is an order to enforce waste discharge requirements and Basin Plan prohibitions previously adopted by the Board. It is therefore categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.
15. The dischargers and interested agencies and persons have been notified of the Board's intent to issue a Cease and Desist Order and have been provided an opportunity to submit their written comments and appear at the public meeting. At a public meeting, the Board heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED:

Cities of South San Francisco and San Bruno, shall cease and desist from discharging waste in a manner that violates waste discharge requirements (NPDES Permit No. CA0038130), in accordance with the following time schedule:

A. Water Quality Control Plant Improvement Program

<u>Task</u>	<u>Compliance Date</u>
1. Complete design of the proposed ¹ WQCP improvement projects.	March 1, 1998
2. Begin construction of the proposed ¹ WQCP improvement projects.	August 1, 1998
3. Complete all the WQCP improvement projects and achieve full compliance with the effluent limitations of the NPDES permit.	March 1, 2001

B. Infiltration/Inflow Improvement Program

<u>Task</u>	<u>Compliance Date</u>
1. Complete I/I studies and submit a Master Plan ² for improving the cities' sewer system.	September 1, 1998

- | | | |
|----|---|------------------|
| 2. | Complete I/I improvement projects recommended by I/I Study Report and achieve full compliance with Discharge Prohibition 2 of the NPDES permit. | November 1, 2007 |
|----|---|------------------|

C. Wet Weather Effluent Disposal Study

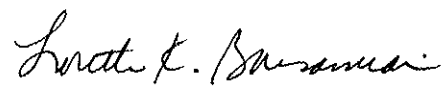
<u>Task</u>	<u>Compliance Date</u>
1. Begin wet weather effluent disposal study.	October 1, 1998
2. Complete wet weather effluent disposal study ³ and submit a work plan for the construction of the wet weather effluent disposal facilities.	February 1, 1999

- D. The dischargers shall submit an annual status report to the Board. The report will be due on January 15 of each year. The report should document completion of each task and describe progress toward compliance with the schedules in this order. If non-compliance or threatened non-compliance is being reported, the dischargers should provide reasons for non-compliance and an estimated compliance date.

NOTES:

1. Projects recommended in the Facility Plan dated March 1997, and subsequently proposed in March 21, 1997 letter submitted on behalf of the cities.
2. Submit a Master Plan or a Study Report which discusses I/I studies conducted in both cities, recommends an approach to optimize sewer and pump station system to reduce peak hourly wet weather flows to the WQCP, and proposes a final I/I improvement program for approval by the Executive Officer.
3. Submit a Study Report which a) discusses wet weather effluent disposal studies conducted, b) evaluates alternatives to manage effluent disposal during design storms of 2, 3, 5, and 10 year return frequencies, c) discusses cost effective analysis for each alternative, and d) proposes a comprehensive recommended alternative work plan for the construction of the wet weather effluent disposal facilities for approval by the Executive Officer.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on August 20, 1997.


Loretta K. Barsamian
Executive Officer